CLAIMS

1. An audio generation system, comprising:

an audio processing component configured to generate an audio rendition corresponding to audio wave data;

audio wave track components configured to generate playback instructions that are routed to the audio processing component to initiate the audio rendition being generated;

a segment component configured to play one or more of the audio wave track components to generate the playback instructions.

2. An audio generation system as recited in claim 1, further comprising MIDI track components configured to generate event instructions that are routed to the audio processing component to initiate a second audio rendition corresponding to MIDI audio data, and wherein the segment component is further configured to play one or more of the MIDI track components to generate the event instructions.

3. An audio generation system as recited in claim 1, further comprising a segment state that includes programming references to each of the audio wave track components, the segment state configured to initiate that one or more of the audio wave track components generate the playback instructions.

4. An audio generation system as recited in claim 1, further comprising one or more segment states that include programming references to each of the audio wave track components, the one or more segment states configured to initiate that one or more of the audio wave track components generate the playback instructions such that the audio processing component generates one or more audio renditions corresponding to the audio wave data.

5. An audio generation system as recited in claim 1, further comprising a performance manager that includes one or more segment states, each segment state including programming references to each of the audio wave track components, and each segment state configured to initiate that one or more of the audio wave track components generate the playback instructions.

6. An audio generation system as recited in claim 1, further comprising one or more performance managers that each include a segment state having programming references to each of the audio wave track components, the segment state configured to initiate that one or more of the audio wave track components generate the playback instructions.

7. An audio generation system as recited in claim 1, wherein the audio processing component is further configured to receive the audio wave data from one or more audio wave data sources, and wherein the audio processing component is further configured to receive the playback instructions from the one or more audio wave track components.

8. An audio generation system as recited in claim 1, wherein the audio processing component is a synthesizer component configured to receive the audio wave data from one or more audio wave data sources, and is further configured to generate the audio rendition in response to the playback instructions.

9. An audio generation system as recited in claim 1, further comprising at least a second audio processing component configured to receive the playback instructions from the one or more audio wave track components, the second audio processing component further configured to generate a second audio rendition corresponding to the audio wave data.

10. An audio generation system as recited in claim 1, wherein the audio wave track components are further configured to maintain the audio wave data as an embedded audio wave data source.

11. An audio generation system as recited in claim 1, wherein the segment component is further configured to maintain the audio wave data as an embedded audio wave data source.

12. An audio generation system as recited in claim 1, wherein the audio wave track components are further configured to randomly select a variation of the audio wave data such that the segment component plays the one or more audio wave track components that correspond to the variation selection.

13. An audio generation system as recited in claim 1, wherein the audio wave track components include programming references to variations of the audio wave data, and wherein the audio wave track components are further configured to randomly select a variation of the audio wave data such that the segment component plays the one or more audio wave track components that correspond to the variation.

14. An audio generation system as recited in claim 1, wherein the segment component is a programming object having an interface that is callable by a software component of the audio generation system to initiate that the segment component play the one or more audio wave track components.

15. An audio generation system as recited in claim 1, wherein the segment component is a programming object having an interface that is callable by a performance manager to initiate that the segment component play the one or more audio wave track components, and wherein the audio wave track components are programming objects each having an interface that is callable by the segment component to initiate that the one or more audio wave track components generate the playback instructions.

16. An audio generation system as recited in claim 1, wherein the audio wave track components generate the playback instructions to include one or more of the following:

one or more programming references to the audio wave data;

a start time to initiate the audio rendition being generated;

a volume parameter that is a decibel gain applied to the audio wave data;

a pitch parameter that identifies an amount that the audio wave data is to be transposed;

a variation parameter that identifies whether the audio wave data corresponding to a particular audio wave track component is to be played;

a duration parameter that identifies how long audio wave data corresponding to a particular audio wave track component will be played; and

a stop play parameter that stops the audio rendition from being generated.

17. An audio generation system as recited in claim 1, wherein the audio wave track components are implemented as data structures associated with the segment component, an individual data structure for an audio wave track component including one or more of the following:

one or more programming references that identify the audio wave data;

a start time that identifies when the audio wave track component is played relative to other audio wave track components;

a volume parameter that is a decibel gain applied to the audio wave data;

a pitch parameter that identifies an amount that the audio wave data is to be transposed;

a variation parameter that identifies whether the audio wave data corresponding to a particular audio wave track component is to be played;

a duration parameter that identifies how long audio wave data corresponding to a particular audio wave track component will be played.

18. An audio generation system, comprising:

a MIDI track component configured to generate event instructions for MIDI audio data received from a MIDI audio data source;

an audio wave track component configured to generate playback instructions for audio wave data maintained in an audio wave data source;

a segment component configured to play the MIDI track component to generate the event instructions, and further configured to play the audio wave track component to generate the playback instructions; and

an audio processing component configured to receive the event instructions and the playback instructions, and further configured to generate an audio rendition corresponding to the MIDI audio data and to the audio wave data.

19. An audio generation system as recited in claim 18, wherein the segment component includes the MIDI track component and the audio wave track component.

20. An audio generation system as recited in claim 18, wherein the segment component includes the MIDI track component, the audio wave track component, and one or more of the following:

one or more additional MIDI track components configured to generate additional event instructions for additional MIDI audio data received from one or more MIDI audio data sources; and

one or more additional audio wave track components configured to generate additional playback instructions for additional audio wave data maintained in one or more audio wave data sources.

21. An audio generation system as recited in claim 18, further comprising a segment state that includes a first programming reference to the MIDI track component and a second programming reference to the audio wave track component, the segment state configured to initiate that the MIDI track component generate the event instructions, and further configured to initiate that the audio wave track component generate the playback instructions.

22. An audio generation system as recited in claim 18, further comprising one or more segment states that include a first programming reference to the MIDI track component and a second programming reference to the audio wave track component, the one or more segment states configured to initiate that the MIDI track component generate the event instructions, and further configured to initiate that the audio wave track component generate the playback instructions such that the audio processing component generates one or more audio renditions corresponding to the MIDI audio data and to the audio wave data.

23. An audio generation system as recited in claim 18, further comprising a performance manager that includes one or more segment states, each segment state including a first programming reference to the MIDI track component and a second programming reference to the audio wave track component, the one or more segment states configured to initiate that the MIDI track component generate the event instructions, and further configured to initiate that the audio wave track component generate the playback instructions.

24. An audio generation system as recited in claim 18, wherein the audio processing component is further configured to receive the audio wave data from one or more audio wave data sources.

25. An audio generation system as recited in claim 18, wherein the audio processing component is a synthesizer component configured to receive the audio wave data from one or more audio wave data sources.

26. An audio generation system as recited in claim 18, further comprising at least a second audio processing component configured to:

receive the audio wave data from one or more audio wave data sources;

receive the event instructions and the playback instructions; and

generate a second audio rendition corresponding to the MIDI audio data and to the audio wave data.

27. An audio generation system as recited in claim 18, wherein the audio wave track component is further configured to maintain the audio wave data as an embedded audio wave data source.

28. An audio generation system as recited in claim 18, wherein the segment component is further configured to maintain the audio wave data as an embedded audio wave data source.

29. An audio generation system as recited in claim 18, wherein the audio wave track component is further configured to randomly select a variation of the audio wave data when the audio wave track component is played.

30. An audio generation system as recited in claim 18, wherein the audio wave track component is further configured to randomly select a variation of the audio wave data such that the segment component plays audio wave data in the audio wave track component that corresponds to the variation selection.

31. An audio generation system as recited in claim 18, wherein the audio wave track component includes programming references to variations of the audio wave data maintained in the audio wave data source, and wherein the audio wave track component is further configured to randomly select a variation of the audio wave data when the audio wave track component is played.

32. An audio generation system as recited in claim 18, wherein the segment component is a programming object having an interface that is callable by a software component of the audio generation system to initiate that the segment component play the MIDI track component and play the audio wave track component.

33. An audio generation system as recited in claim 18, wherein:

the segment component is a programming object having an interface that is callable by a performance manager to initiate that the segment component play the MIDI track component and play the audio wave track component;

the MIDI track component is a programming object having an interface that is callable by the segment component to initiate that the MIDI track component generate the event instructions; and

the audio wave track component is a programming object having an interface that is callable by the segment component to initiate that the audio wave track component generate the playback instructions.

34. An audio generation system as recited in claim 18, wherein the audio wave track component generates the playback instructions to include one or more of the following:

one or more programming references to the audio wave data;

a start time to initiate the audio rendition being generated;

a volume parameter that is a decibel gain applied to the audio wave data;

a pitch parameter that identifies an amount that the audio wave data is to be transposed;

a variation parameter that identifies whether the audio wave data corresponding to the audio wave track component is to be played;

a duration parameter that identifies how long audio wave data corresponding to the audio wave track component will be played; and

a stop play parameter that stops the audio rendition from being generated.

35. An audio generation system as recited in claim 1, wherein the audio wave track component is implemented as data structure associated with the segment component, the data structure including one or more of the following:

one or more programming references that identify the audio wave data;

a start time that identifies when the audio wave track component is played relative to the MIDI track component and to other audio wave track components;

a volume parameter that is a decibel gain applied to the audio wave data;

a pitch parameter that identifies an amount that the audio wave data is to be transposed;

a variation parameter that identifies whether the audio wave data corresponding to the audio wave track component is to be played;

a duration parameter that identifies how long audio wave data corresponding to the audio wave track component will be played.

36. A method, comprising:

initiating a segment component to play one or more audio wave track components;

generating playback instructions for audio wave data with the one or more audio wave track components; and

communicating the playback instructions to an audio processing component that generates an audio rendition corresponding to the audio wave data.

37. A method as recited in claim 36, further comprising routing the audio wave data to the audio processing component from one or more audio wave data sources.

38. A method as recited in claim 36, further comprising routing the audio wave data to the audio processing component from one or more audio wave data sources before generating the playback instructions.

39. A method as recited in claim 36, further comprising instantiating a segment state that initiates the segment component playing the one or more audio wave track components.

40. A method as recited in claim 36, further comprising instantiating multiple segment states that each initiate the segment component playing the one or more audio wave track components, and wherein:

generating the playback instructions includes generating playback instructions for each segment state; and

communicating the playback instructions includes communicating the playback instructions for each segment state to the audio processing component such that the audio processing component generates multiple audio renditions corresponding to the multiple segment states.

41. A method as recited in claim 36, further comprising selecting a variation number corresponding to one or more variations of the audio wave data, and further comprising playing the one or more audio wave track components corresponding to audio wave data associated with the variation number.

42. A method as recited in claim 36, wherein communicating the playback instructions includes communicating the playback instructions to multiple audio processing components that each generate an audio rendition corresponding to the audio wave data.

43. A method as recited in claim 36, further comprising:

initiating the segment component to play one or more MIDI track components;

generating event instructions for MIDI audio data with the one or more MIDI track components; and

wherein communicating the playback instructions includes communicating the event instructions to the audio processing component to generate the audio rendition corresponding to the audio wave data and to the MIDI audio data.

44. One or more computer-readable media comprising computer-executable instructions that, when executed, direct an audio generation system to perform the method of claim 36.

45. One or more computer-readable media comprising computer-executable instructions that, when executed, direct an audio generation system to perform the method of claim 43.

46. A method, comprising:

generating playback instructions for audio wave data with an audio wave track component;

generating event instructions for MIDI audio data with a MIDI track component;

communicating the playback instructions and the event instructions to an audio processing component that generates an audio rendition corresponding to the audio wave data and to the MIDI audio data.

47. A method as recited in claim 46, further comprising requesting an allocation of logical communication paths in the audio processing component to route the playback instructions and the event instructions.

48. A method as recited in claim 46, further comprising routing the audio wave data to the audio processing component from one or more audio wave data sources before communicating the playback instructions.

49. A method as recited in claim 46, further comprising initiating a segment component to play the audio wave track component and play the MIDI track component such that the audio wave track component generates the playback instructions and the MIDI track component generates the event instructions.

50. A method as recited in claim 49, further comprising instantiating a segment state that initiates the segment component playing the audio wave track component and the MIDI track component.

51. A method as recited in claim 46, further comprising selecting a variation number corresponding to one or more variations of the audio wave data, and wherein generating the playback instructions includes generating the playback instructions for audio wave data associated with the variation number.

52. A method as recited in claim 46, wherein communicating the playback instructions and the event instructions includes communicating the playback instructions and the event instructions to multiple audio processing components that each generate an audio rendition corresponding to the audio wave data and to the MIDI audio data.

53. One or more computer-readable media comprising computer-executable instructions that, when executed, direct an audio generation system to perform the method of claim 46.

54. One or more computer-readable media comprising computer-executable instructions that, when executed, direct an audio generation system to perform the method of claim 49.

55. One or more computer-readable media comprising computer-executable instructions that, when executed, direct an audio generation system to perform a method, comprising:

playing one or more audio wave track components;

playing one or more MIDI track components;

generating playback instructions for audio wave data with the one or more audio wave track components;

generating event instructions for MIDI audio data with the one or more MIDI track components; and

communicating the playback instructions and the event instructions to an audio processing component that generates an audio rendition corresponding to the audio wave data and to the MIDI audio data.

56. One or more computer-readable media as recited in claim 55, wherein the method further comprises routing the audio wave data to the audio processing component from one or more audio wave data sources.

57. One or more computer-readable media as recited in claim 55, wherein the method further comprises initiating a segment component to play the one or more audio wave track components and play the one or more MIDI track components.

58. One or more computer-readable media as recited in claim 57, wherein the method further comprises instantiating a segment state that initiates the segment component to play the one or more audio wave track components and play the one or more MIDI track components.